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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,048	02/28/2002	Clara Maria Otero Perez	PHNL 010127	8816
24737	7590	05/06/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			BANANKHAH, MAJID A	
			ART UNIT	PAPER NUMBER
			2195	
DATE MAILED: 05/06/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,048

Applicant(s)

OTERO PEREZ ET AL.

Examiner

Majid A. Banankhah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/28/02, 9/8/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application filed on February 28, 2002. Claims 1-10 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 5 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada (US Pat. No. 6,108,683 hereafter Kamada) in view of Mizuno (US Pat. No. 5,524,247 hereafter Mizuno).

As to claims 1, 5, and 7-8, a method and system of scheduling a first task comprising the following steps:

a first step of starting the first task to run during a period (the system of Kamada, Abstract, and col. 23, lines 28-41),

a second step of detecting that the first task blocks during the period, characterized in that the method further comprises (col. 23, lines 42-62:

While the system of kamada teaches of blocking, he does not clearly explain the detail of blocking and preventing the first task resuming running during the period. However, the system of Mizuno, teaches of scheduling system wherein the resource including CPU is allocated to

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program unit in any state other than "lock wait" state, for the reason that as long as the resource for the locked program is unavailable, the systems' efficiency does not increase by polling for CPU time or resource. Therefore it would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate a "lock-wait" or "prevent resume" mechanism in order for other tasks not waiting for resource be able to run without difficulty, and therefore, increase the efficiency.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada (US Pat. No. 6,108,683 hereafter Kamada) in view of Mizuno (US Pat. No. 5,524,247 hereafter Mizuno), and further in view of Culbert (US Pat. No. 5,838,968 hereafter Culbert).

As to claim 2, the system of Kamada and Mizuno does not explicitly teach of "context switching" in the process of "lock-wait", and "allocating CPU to the program units in any state other than the lock-wait" state of the Mizuno. However, it is well known in the art at the time the invention was made to use "context switching", in any switching between two program or threads, or task, whenever one program is blocked, or interrupted and changed states from "running" to "wait-lock" state, as it is evidenced by Culbert (col. 4, lines 60-61), for the reason to be able to retrieve the state of the interrupted (then locked and waited) task after the blocking state is over. Therefore, I would have been obvious for one ordinary skill in the art at the time the invention was made to use "context switching" (saving and restoring) concept in the combination of kamada and Mizuno, for the reason to be able to save be able to start from the point where the program or task or thread was blocked.

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As to claims 3, and 6 the combination of Kamada, Mizuno, and Culbert, teach the invention as claimed including, the method of scheduling a first task according to claim 2, wherein the second step of detecting that the first task blocks during the period comprises: a first sub-step of detecting that the first task is suspended and that a second task is allowed to start running;

and wherein the context switch information comprises:

a second priority of the second task that is lower than a first priority of the first task, and a remaining budget of the first task that is substantially equal to an assigned budget for the period minus a consumed budget during the period.

The system of Mizuno teaches of "Lock-wait" state in favor of running another program, but by definition suspend is a state in which a task is in a state of sleep in a temporary state but remain active in memory so it can resume later on, as it is evidenced by the "suspend resume" definition of Culbert (col. 47-50). Additionally, the scheduling system of Mizuno select task with priority, meaning the task which is running (the first task), has a higher priority (col. 3, lines 39-42). The last step of "remaining budget..." is obvious because, at any time the remaining of the resource is the difference between the assigned amount (during a time-slice or period needed for the task to finish), minus the consumed amount of the resource before the end of its period.

As to claim 4, the method of scheduling a first task according to claim 3, wherein the

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remaining budget is withdrawn from the first task during the period. The system of Culbert teaches of context preemption and context switching, wherein in the context switching, the active thread or task is stopped in favor of a thread or task with higher priority (Culbert col. 4, line 66 to col. 5, line 1-3). In context switching, while the task is preempted, the context of the stopped task is saved to be restored when the task is resumed. In this process, when the remaining of the time period of the task (remaining resource assigned to the thread) is practically removed because another task has started running.

Per claim 9-10 and please see the rejection of claim 5.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Majid A. Banankhah** whose telephone number is (571) 272-3770. The examiner can normally be reached on Monday – Friday, 7:00 AM – 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Meng-Ai An** can be reached on (571) 272-3756.

Any inquiry of a general nature or relating to the status of this application should be directed to the **TC2100 Group** receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Majid Banankhah

5/2/05


MAJID BANANKHAH
PRIMARY EXAMINER